

# Canadian Alloys

The Canadian Alloys division of Inco Limited's Formed Metal Products Group is in the Walden Industrial Park in the Regional Municipality of Sudbury, Ontario.

Canadian Alloys was established to supply the growing worldwide market for nickel and copper-nickel strip for the minting of coinage. The plant is the first commercial operation for continuous production of coinage grade strip from powders.

## Production

Inco has always been the leader in developing new or improved processing methods for nickel alloys, and our plant is no exception. The production method is the culmination of years of research and is unique in the metals industry.

The first production step is melting of nickel, or nickel and copper in an induction furnace. The molten metal is then atomized to fine powder by subjecting a falling stream of metal to high-velocity water jets. In a continuous operation, the powder is roll-compacted into strip, sintered as it passes through a furnace, and hot rolled upon exiting the furnace. The hot-rolled band is reduced to required thickness by conventional cold rolling.

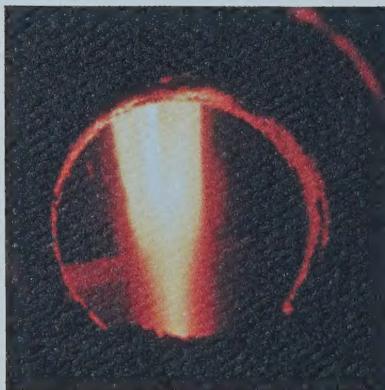
As in all of Inco's new facilities, energy conservation and environmental protection are an integral part of the plant design. Heat in exhausted air and in the water used for atomization is recovered and used so that supplemental heating of the building is minimized. The operation produces essentially no smoke or dust effluent, and all liquid passes through a proportional-flow sampling system.

## Products

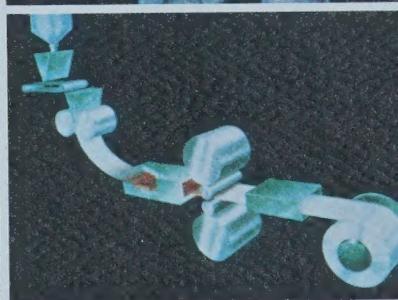
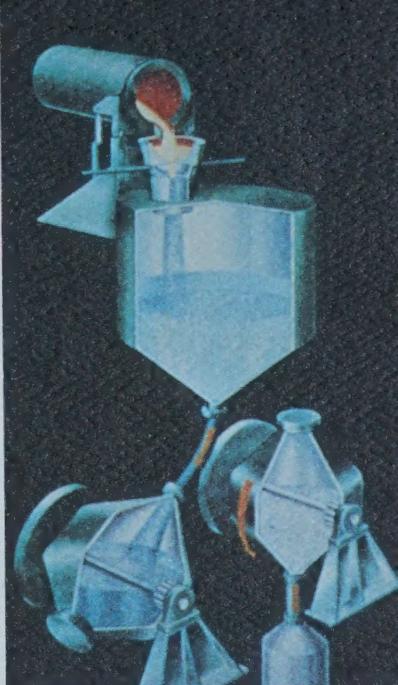
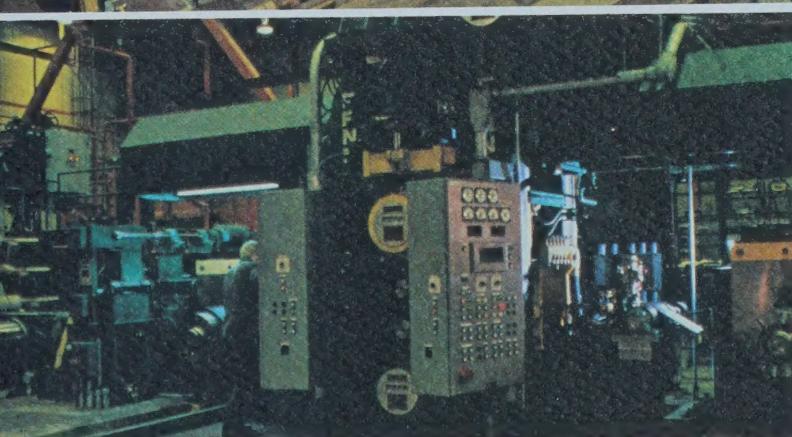
The bright-finished coils of cold-rolled strip are mainly either nickel or an alloy of 75% copper and 25% nickel. Surface finish and other properties are designed to meet the high levels of quality and consistency needed for production of coinage. Those attributes also make the strip desirable for various industrial uses.

## Marketing

Our products are marketed on a worldwide basis through the Inco organization. Inco has a long history of supplying the mints of the world with nickel and copper for remelting as well as with strip and coin blanks. That experience and this new process enables us to produce the best possible products and assures customers of outstanding service and dependable supply.



Metal stream is atomized by high pressure water jets.



(Top) Plant site and headquarters.

(Center left) Strip forming line.  
The atomized powder is continuously formed into strip, sintered, hot rolled and coiled.

(Bottom left) Strip is cold rolled to required gauge.

(Top and center right) Schematics:  
atomization and strip forming  
processes.

(Bottom right) Hot-rolled  
nickel strip for coinage  
application.



# **Canadian Alloys**

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